(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
8 February 2001 (08.02.2001)

PCT

(10) International Publication Number
WO 01/09305 A2

(51) International Patent Classification[7]: C12N 15/00

(21) International Application Number: PCT/US00/21009

(22) International Filing Date: 28 July 2000 (28.07.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/146,473 30 July 1999 (30.07.1999) US

(71) Applicants *(for all designated States except US)*: **E.I. DU PONT DE NEMOURS AND COMPANY** [US/US]; 1007 Market Street, Wilmington, DE 19898 (US). **PIONEER HI-BRED INTERNATIONAL, INC.** [US/US]; 7100 N.W. 62nd Avenue, Johnston, IA 50131 (US).

(72) Inventors; and

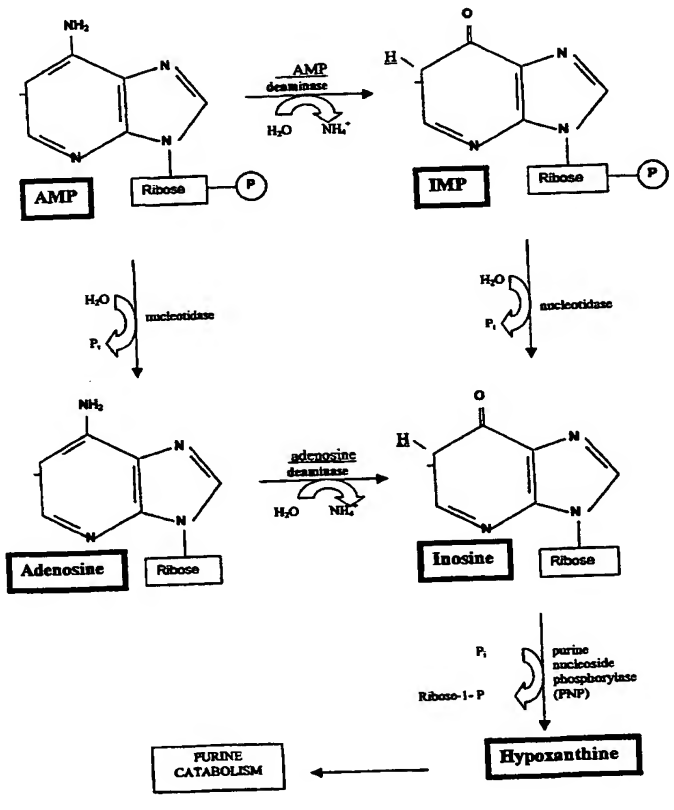
(75) Inventors/Applicants *(for US only)*: **CASPAR, Timothy** [US/US]; 2927 Barley Mill Road, Yorklyn, Wilmington, DE 19736 (US). **FALCO, Saverio, Carl** [US/US]; 1902 Miller Road, Arden, DE 19810 (US). **SAKAI, Hajime** [DE/US]; 105 Banbury Drive, Wilmington, DE 19803 (US). **WENG, Zude** [CN/US]; Apartment 301, 495 Leslie Court, Des Plaines, IL 60016 (US). **HU, Xu** [CA/US]; 4700 103rd Street, Urbandale, IA 50322 (US).

(74) Agent: **LI, Kening**; E.I. Du Pont de Nemours and Company, Legal Patent Records Center, 1007 Market Street, Wilmington, DE 19898 (US).

(81) Designated States *(national)*: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO,

[Continued on next page]

(54) Title: PURINE METABOLISM GENES IN PLANTS



(57) Abstract: This invention relates to an isolated nucleic acid fragment encoding an AMP deaminase or adenosine deaminase, a transformed host cell comprising the nucleic acid fragment, and a transgenic plant comprising the nucleic acid fragment. The invention also relates to the construction of a chimeric gene encoding all or a substantial portion of an AMP or adenosine deaminase, and a chimeric gene comprising the isolated fragment in sense or antisense orientation. This invention further relates to a method for altering expression level of AMP deaminase or adenosine deaminase in a transformed host cell, and a method for evaluating a compound that affects the activity of an AMP deaminase or an adenosine deaminase.

WO 01/09305 A2

RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW.

(84) **Designated States** *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— *Without international search report and to be republished upon receipt of that report.*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.